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10/627,473	07/25/2003	Laurent Michel Marie Vuillard	674553-2002.1	1682
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FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151				
			EXAMINER NASHED, NASHAAT T	
			ART UNIT	PAPER NUMBER
			1656	

DATE MAILED: 04/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.



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Claims 1-84 are pending.

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-10, and 15-33, drawn to variant BACE protein and crystal thereof, classified in class 435, subclass 219.
- II. Claims 11-14, drawn to nucleic acid encoding BACE variant, vector and host cell comprising said nucleic acid, and a method of making BACE, classified in class 435, subclass 19.
- III. Claims 34-51, drawn to a computer method to identify compound that modulate BACE activity using atomic coordinate (*in silico* method), classified in class 702, subclass 27.
- IV. Claims 52-55, drawn to a method to identify compound that modulate BACE activity using BACE crystal (*in vitro* method), classified in class 435, subclass 23.
- V. Claims 56-58, drawn to a computer and a method of providing data through electronic transmission and computer system, classified in class 700, subclass 90+.
- VI. Claim 59, drawn to a method of determining the three-dimensional structure of a protein, classified in class 702, subclass 27.
- VII. Claims 60-84, drawn to a modulator of the activity of BACE, composition thereof, and method of making said composition, classification is unknown. The classification system based on chemical structure, and since the specification does not exemplify or identify any modulator the invention could not be classified.

The inventions are distinct, each from the other because of the following reasons:

Inventions II, VII, and I are unrelated. The three inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the three inventions are directed to independent chemical entities and require different searches in the patent and non-patent literature.

Inventions III, V, VI and that of I are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant

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case, the crystal of invention I is not used in the methods of Groups III and VI. Also, the computer of Group V is not disclosed be used with the crystal of Group I.

Inventions IV and I are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case, the method of identifying modulator can be practiced with different material such as wild-type BACE and contacting desired compound with said BACE, whereas the crystal of invention I can be utilized as a seed in a purification method of BACE variants.

Inventions II-VI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the nucleic acid of invention II is not disclosed be used with the computer of invention III, and not used in any of the methods of Groups IV-VI.

Inventions III, IV and VI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions are independent methods having different steps.

Inventions III and V are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case, the computer can be used in different method such as identifying mutants of BACE or homology modeling method.

Inventions III and VII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions are not disclosed as capable of use together.

Inventions IV and V are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case, the computer can be used in different method such as identifying mutants of BACE or homology modeling method.

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Inventions IV and VII are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the modulator can be identified by different method such as screening assays.

Inventions V and VI are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case, the computer can be used in different method such as identifying mutants of BACE or identifying compounds that bind to BACE.

Inventions V and VII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions are not disclosed as capable of use together.

Inventions VI and VII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions are not disclosed as capable of use together.

Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

This application contains claims directed to the following patentably distinct species: residues 45-455 of SEQ ID NO: 2, 58-398 of SEQ ID NO: 2, replacement of 1-30 amino acid, any of the amino acid sequences in claim 10. The species are independent or distinct because they are different chemical entities. Please elect: (a) residues 45-455 or 58-398 of SEQ ID NO: 2; (b) one specific residue to be substituted or deleted; and (c) one amino acid sequence from claim 10.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1-33 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim

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is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04. **Process claims that depend from or otherwise include all the limitations of the patentable product** will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai*, *In re Brouwer* and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996). Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.**

Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nashaat T. Nashed, Ph. D. whose telephone number is 571-272-0934. The examiner can normally be reached on MTWTF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathleen M. Kerr can be reached on 571-272-0931. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Nashaat T. Nashed, Ph. D.  
Primary Examiner  
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